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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,204	09/18/2001	Richard Malcolm Kelso	P21154	6189
7055	7590	12/07/2005	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			SORKIN, DAVID L	
			ART UNIT	PAPER NUMBER
			1723	
DATE MAILED: 12/07/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/857,204

Applicant(s)

KELSO ET AL.

Examiner

David L. Sorkin

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 30 November 2005 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 38-69 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. In new independent claim 38, the new limitation "wherein said at least one mixed fluid outlet is defined by a greater portion of the internal periphery than said at least one second fluid inlet, said at least one second fluid inlet is defined by a greater portion of the external periphery than said at least one mixed fluid outlet, such that a center of said at least one second fluid inlet is closer to said external periphery than a center of said at least one mixed fluid outlet" is not described in the original filing. The comparative limitations concerning portions of the

Art Unit: 1723

internal and external peripheries of the flow divider as they define the second fluid inlet and mixed fluid outlet are not addressed at all. The possibility that an external periphery of the divider could define part of the mixed fluid outlet is not even remotely suggested in the original filing. The possibility that the internal periphery of the divider could define part of the second inlet is not even remotely suggested by the original filing. The positions of the centers of the second inlet and mixed fluid outlet are not mentioned at all.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 58-60 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 58, there is lack of antecedent basis for "said opposite end of the chamber". Although parent claim 38 recites "a first fluid inlet disposed in said chamber opposite from said bluff body", recitation in claim 59 that the first fluid inlet is "spac[ed] ... from said opposite end" appears to contradict the base claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1723

7. Claims 38-69 are rejected under 35 U.S.C. 102(b) as being anticipated by Collins (US 2,558,238). Regarding claim 38, Collins ('238) discloses a device comprising a chamber (9 in the embodiment of Figs. 1 and 2; and including 27 in the embodiment of Figs. 3 and 4); a bluff body (16,17, 18 and 19 in the embodiment of Figs. 1 and 2, or a subset thereof; 17 and/or 19 in the embodiment of Figs. 3 and 4) defining one end of the chamber; a first fluid inlet (11 in the embodiment of Figs. 1 and 2; 23 and/or 25 in the embodiment of Figs. 3 and 4); a flow divider (15) defined by an internal and external periphery; at least one opening (one or more of the openings defined between 15 and the inner wall of the chamber) capable of being a second fluid inlet to said chamber defined by said flow divider in a region substantially surrounding the bluff body; at least one opening (one or more of the openings defined between 15 and 17) capable of being a mixed fluid outlet from said chamber defined by said flow divider in a region substantially surrounding said bluff body, wherein said at least one mixed fluid outlet is defined by a greater portion of the internal periphery than said at least one second fluid inlet, said at least one second fluid inlet is defined by a greater portion of the external periphery than said at least one mixed fluid outlet, such that a center of said at least one second fluid inlet is closer to said external periphery than a center of said at least one mixed fluid outlet (see Figs. 2 and 4). Regarding claims 39-44, the bluff body includes apertures including a central circular aperture toward which the first fluid inlet is directed. Regarding claims 45 and 46, said flow divider defines a series of channels; channels formed between the divider (15) and the inner wall of the chamber alternate with those formed between the divider (15) and bluff body portion (17). Regarding claim

Art Unit: 1723

47, said flow divider (15) has a corrugated profile so as to repeatedly cross said region surrounding the bluff body (see Figs. 2 and 4). Regarding claim 48, said chamber includes an outer wall extending substantially around the perimeter of said region surrounding the bluff body (see Figs. 1-4). Regarding claim 49, the corrugated profile alternately contacts the bluff body and said outer wall (see Figs. 2 and 4). Regarding claim 50 and 51, the geometric centers of the cross section of each of the flow channels defined by said corrugated profile are alternately substantially closer to the outer wall and substantially closer to the bluff body (see Figs. 2 and 4). Regarding claim 52, said corrugated profile is of triangular form so that said flow channels are generally triangular in cross section (see Figs. 2 and 4). Regarding claim 53, at least alternate flow channels have substantially the same cross section size (see Figs. 2 and 4). Regarding claim 54, said corrugated profile defines eight channels for being second fluid inlets each alternately interposed with eight channels for being mixed fluid outlets (see Figs. 2 and 4). Regarding claim 55, the mixing device has eight flow azimuthal symmetry about a longitudinal axis (see Fig. 2 and 4). Regarding claim 56, the flow divider protrudes beyond the bluff body (see Figs. 2 and 4). Regarding claim 57, the flow divider extends into said chamber (see Figs. 1 and 3). Regarding claim 58, said first fluid inlet extends toward said bluff body from said opposite end of the chamber (see Figs. 1 and 3). Regarding claim 59, the spacing h of the first fluid inlet from said opposite end satisfied the relationship $0 < h/L < 1$ (see Figs. 1 and 3). Regarding claim 60, considering all of 21 to be the chamber, and 25 to be the inlet, the ratio of h/L is about 0.4 (see Fig. 3). Regarding claim 61, said chamber is formed by a generally cup shaped body with said

Art Unit: 1723

bluff body disposed at or adjacent an open end of said cup-shaped body (see Figs. 1 and 3). Regarding claim 62, said first fluid inlet is centrally disposed in the base of said cup shaped body (see Figs. 1-4). Regarding claim 63, said flow divider extends between the wall of said cup shaped body adjacent the open end and said bluff body (see Figs. 1-4). Regarding claim 64, said flow divider is fixed to the wall of said cup shaped body (see Figs. 1-4). Regarding claims 65-69, the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself" *In re Casey*, 152 USPQ 235 (CCPA 1967). Furthermore, "inclusion of material or article worked upon by a structure being claimed, does not impart patentability to the claims" *In re Otto* 136 USPQ 458, 459 (CCPA 1963). "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). The device of Collins ('238) would be capable of being used in the manner discussed in the claims.

Response to Applicant's Remarks

8. Applicant accurately remarks that a new set of claims has been submitted which involves limitations different from those considered by the BPAI.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 1723

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 571-272-1148. The examiner can normally be reached on 9:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David L. Sorkin
Primary Examiner
Art Unit 1723

DLS